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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/600,043	06/19/2003	Kiyong Choi	004735.P004	6395

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EXAMINER

SHINGLETON, MICHAEL B

ART UNIT PAPER NUMBER

2817

DATE MAILED: 04/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/600,043

Applicant(s)

CHOI ET AL.

Examiner

Michael B. Shingleton

Art Unit

2817

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 January 2005.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☒ Claim(s) 1 and 9-11 is/are allowed.
6) ☒ Claim(s) 2, 5-8 and 12 is/are rejected.
7) ☒ Claim(s) 3, 4, and 13 is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 2, 7, 8 and 12 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Afrashteh et al. 5,426,641 (Afrashteh).

Figure 2 and the relevant text of Afrashteh disclose a method for operating a RF power amplifier 203. A digital signal 213 is applied to the RF power amplifier 203 via the elements 212 and 204. The term program is directed to “a plan or system under which action may be taken toward a goal” accordingly the programming a conduction angle is the action of achieving that goal. The gate bias control circuit 204 thereby programs the conduction angle of the RF power amplifier using the digital signal 213 or in other words this circuit provides for the programming a conduction angle to the RF power amplifier with the digital signal 213. Since no specific definition is provided by the applicant, the examiner must give the broadest reasonable interpretation to these terms (See MPEP 2111 and 2111.01). Also note that an analog information signal 201 is applied to the RF power amplifier as is clearly illustrated by Afrashteh. Also clearly the RF power amplifier 203 is operated at the conduction angle specified by the digital signal 213. The above arrangement clearly provides for a digital control function coupled to the RF power amplifier.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Afrashteh 5,426,641 (Afrashteh) in view of Sowlati US2002/0196086 (Sowlati).

Afrashteh as applied above in the rejection of claim 2, 7 and 12 and the following: Afrashteh is silent on the details of the RF power amplifier.

Self-biased cascode stage amplifiers are conventional in the art for use as RF power amplifiers. Sowlati shows various cascode stage self-biased power amplifiers in Figures 3a-c, 4a-b, 5a-b and Figure 6. Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have replaced the RF power amplifier of Afrashteh with a self-biased cascode stage RF power amplifier because, as the Afrashteh reference is silent on the exact RF power amplifier stage employed one of ordinary skill in the art would have been motivated to use any art-recognized equivalent RF power amplifier stage therefore such as the conventional self-biased cascode differential stage RF power amplifier as shown by Sowlati.

Afrashteh is also silent on the employment of a driver stage prior to the RF power amplifier stage. This is common-place in the art so as to allow for signals of "smaller" magnitude to power the RF power amplifier.

Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to employ a driver stage prior to the RF power amplifier stage so as to allow signals smaller than could power the RF amplifier by themselves to power the RF power amplifier as is conventionally known in the art.

Afrashteh and Sowlati are both silent on the forming of a cross-coupling the differential stage amplifier. However, cross-coupling in differential amplifier arrangements is conventional known so as to improve linearization. Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have cross-coupled the arrangement of Afrashteh and Sowlati so as to improve linearization as is conventionally known in the art.

Claims 1, 9-11 are allowable over the art of record.

Claims 3, 4 and 13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Applicant's arguments with respect to claims of record have been considered but are moot in view of the new ground(s) of rejection.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

Art Unit: 2817

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

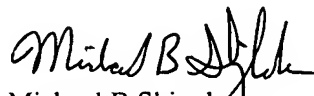
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael B. Shingleton whose telephone number is (571)272-1770.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Pascal, can be reached on (571)272-1769. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MBS

April 15, 2005


Michael B Shingleton
Primary Examiner
Group Art Unit 2817